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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/654,587

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Kar-Wing Edward Lor

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10/24/2005

SQUIRE, SANDERS & DEMPSEY L.L.P.

14TH FLOOR

8000 TOWERS CRESCENT

TYSONS CORNER, VA 22182

EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/654,587

Applicant(s)

LOR ET AL.

Examiner

Dmitry Levitan

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RM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 7-9 and 11-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 9, 11-20, 27-29 and 31-33 is/are rejected.
- 7) ☒ Claim(s) 7, 21-26 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Amendment, filed 9/28/05 has been entered. Claims 7-9 and 11-33 remain pending.

### *Claim Objections*

In light of the Applicant's Amendment, the objection to the claims 7-9, 11-19 and 31-33 has been withdrawn.

### *Claim Rejections - 35 USC § 103*

1. Claims 8, 9, 11-20, 27-29 and 31-33 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Baum (US 6,400,707) in view of Curry (US 6,233,234) and Klein (US6,085,328).

2. Regarding claims 11, 15-17 and 20, Baum substantially teaches the limitations of the claims:

A method for switching VOIP packets (phone call from computer 326 through IP network 310 on Fig. 3 and 5:24-31), comprising the steps of

Receiving a first packet in a network switch (firewall 338 including switch 342 on Fig. 3 and 5:39-51),

Determining if the first packet is a VOIP packet (authenticating a request at the control center 330 on Fig. 3 and 6:36-62, wherein the request packet is a First VoIP packet),

Determining a dynamically negotiated VOIP port for VOIP session from at least one of the first packet and a second packet received in the switch, if the first packet is the VOIP packet (dynamically setting security rules to a port 5:61-67 and confirming the port authorization by the control processor 344 on Fig. 3 and 7:30-33), and

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Classifying all subsequent VOIP packets corresponding to the VOIP port in accordance with the predetermined parameters (monitoring every packet for conformance to the set of security specifications 7:41-55, classifying the packets as belonging to this single conversation),

Wherein the step of classifying all subsequent VOIP packets comprises

Storing the VOIP port (inherently part of the system, because Baum teaches setting the security rules including the negotiated port for the duration of the conversation, what means storing the rules, including the port),

Filtering all packets coming through the switch, associated with the VOIP port (filtering the packets 7:41-52),

Classifying filtered packets in accordance with predefined filter actions (classifying the packets as belonging to this single conversation 7:41-55), and

Wherein the step of storing the VOIP port comprises generating a filter corresponding to the VOIP port (firewall filter contains the negotiated port, so storing the port is essential part of the filter parameters generation) and fast filtering processor (firewall).

Baum does not teach assigning priority to the packets and storing the generated filter in a filter table.

Klein teaches utilizing VLAN and assigning priority to the packets (designating bytes of the packet header for assigning priority 9:59-60)

Curry teaches storing the generated filter in a filter table (filter tables on 5:64-67 and 6:1-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add VLAN and assigning priority to the packets of Klein and storing the generated filter in a

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filter table associated with a fast filtering processor of Curry to the system of Baum to increase the security of the system by utilizing virtual LAN with assigning priority to the packets to prioritize customers needs and reduce the system delay by improving its search capabilities by utilizing the stored filter tables.

In addition, regarding claims 15-17, Baum teaches trapping VOIP call setup message (valid Q.931 message 6:51-63), fast filtering processor (firewall 340 on Fig. 3) and capabilities exchange protocol message (protocol on 7:16-25 including bearer capability 7:20).

3. Regarding claim 8, Baum teaches extracting the negotiated VOIP port from the first packet and sending the second packet to a CPU for decoding and extraction of the VOIP port (the port is part of the security set, extracted from all packets, as all the packets are monitored at firewall/CPU for the security conformance 7:41-52).

4. Regarding claims 13 and 14, Baum teaches taking a filtering action/dropping the packet (inherently part of the system, because Baum teaches use of firewall and firewalls drop unauthorized packets).

5. Regarding claim 27, memory management, memory and data port interfaces, messaging exchange between these elements and a communication channel are inherently part of the filter table storage, because all these elements are essential for any memory storage unit.

6. Regarding claim 29, Baum teaches fast filtering processor programmable by inputs from a CPU through a CPU interface (firewall 340 is programmable during the call setup by a customer PC, inherently containing a CPU, as disclosed on 6:35-62).

7. Regarding claim 9, Baum, Klein and Carry teach all limitations of parent claim 11. Baum, Klein and Carry do not teach real time (RTP) port.

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Official notice is taken that real time (RTP) port is well known in the art for use with real time traffic like voice or video.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add real time (RTP) port to the system of Baum, Klein and Carry to improve the system operation with voice traffic to make the conversation coherent.

8. Regarding claim 28, Baum, Klein and Carry teach all the limitations of parent claim 27. Baum, Klein and Carry do not teach memory interface comprising an internal memory and external memory interface.

Official notice is taken that memory interface comprising an internal memory and external memory interface is well known in the art, as well known Personal computers comprise an internal memory (RAM) with an external memory (hard disk memory) including an interface between them.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add memory interface comprising an internal memory and external memory interface to the system of Baum, Klein and Carry to improve the system reliability, in case one of the memories will fail.

9. Regarding claims 18 and 19 Baum, Klein and Carry teach all limitations of parent claim 15.

Baum, Klein and Carry do not teach changing priority of the packet to reduce network transmission delay for the packet.

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Official notice is taken that changing priority of the packet to reduce network transmission delay for the packet is well known in the art, as some customer's traffic with lower priority can be dropped in the network congestion environment.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add changing priority of the packet to reduce network transmission delay for the packet to the system of Baum, Klein and Carry to improve the system operation with voice traffic giving priority to certain packets.

10. Regarding claims 12 and 31-33, Baum substantially teaches the limitations of parent claims 11, 31 and 32:

A method for switching VOIP packets (phone call from computer 326 through IP network 310 on Fig. 3 and 5:24-31), comprising the steps of

Receiving a first packet in a network switch (firewall 338 including switch 342 on Fig. 3 and 5:39-51),

Determining if the first packet is a VOIP packet (authenticating a request at the control center 330 on Fig. 3 and 6:36-62),

Determining a dynamically negotiated VOIP port for VOIP session from at least one of the first packet and a second packet received in the switch, if the first packet is the VOIP packet (dynamically setting security rules to a port 5:61-67 and confirming the port authorization by the control processor 344 on Fig. 3 and 7:30-33), and

Classifying all subsequent VOIP packets corresponding to the VOIP port in accordance with the predetermined parameters (monitoring every packet for conformance to the set of security specifications 7:41-55, classifying the packets as belonging to this single conversation),

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Wherein the step of classifying all subsequent VOIP packets comprises

Storing the VOIP port (inherently part of the system, because Baum teaches setting the security rules including the negotiated port for the duration of the conversation, what means storing the rules, including the port),

Filtering all packets coming through the switch, associated with the VOIP port (filtering the packets 7:41-52),

Classifying filtered packets in accordance with predefined filter actions (classifying the packets as belonging to this single conversation 7:41-55), and

Wherein the step of storing the VOIP port comprises generating a filter corresponding to the VOIP port (firewall filter contains the negotiated port, so storing the port is essential part of the filter parameters generation) and fast filtering processor (firewall).

Baum does not teach assigning priority to the packets, storing the generated filter in a filter table and using a mask to compare the information in the packet with a filter table.

Klein teaches utilizing VLAN and assigning priority to the packets (designating bytes of the packet header for assigning priority 9:59-60) and using a mask to compare the information in the packet with a filter table (applying filter mask to a packet header, extracting unmasked portion and matching it to predefined values Fig. 4 and 5:66-67, 6:1-28).

Curry teaches storing the generated filter in a filter table (filter tables on 5:64-67 and 6:1-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add VLAN and assigning priority to the packets and using mask of Klein and storing the generated filter in a filter table associated with a fast filtering processor of Curry to



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the system of Baum to increase the security of the system by utilizing virtual LAN with assigning priority to the packets to prioritize customers needs and reduce the system delay by improving its search capabilities by utilizing the stored filter tables, incorporating well known technique in the system.

*Allowable Subject Matter*

11. Claims 7, 21-26 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

12. Applicant's arguments filed 09/28/05 have been fully considered but they are not persuasive.

13. On pages 8 and 9 of the Response, Applicant argues that Baum does not teach determining if the first packet is a VoIP packet.

Examiner respectfully disagrees.

Baum teaches setting up an VoIP connection by sending a request from PC caller to the control center 330 on Fig. 3. The authentication of the received packet is the start of VoIP call set up process 6:36-62.

Therefore Examiner believes that the received packet belongs to the VoIP set up process and is the first VoIP packet, as VoIP packets comprise VoIP set up packets/VoIP signaling and VoIP data packets.

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14. On page 10 of the Response, Applicant argues that Baum does not teach dynamically negotiating VoIP port for VoIP session from at least one of the first packet and a second packet received in the switch.

Examiner respectfully disagrees.

Baum teaches dynamically setting the rules for VoIP ports for each VoIP call 5:54-6:4, at firewall mechanism 338 comprising switch 342 on Fig. 3, based on a replicated set up packet (first VoIP packet) received at the switch 6:8-16.

15. On page 11 of the Response, Applicant argues that monitoring packets by firewall of Baum is not the same as classifying the packets.

Examiner respectfully disagrees.

The firewall of Baum monitors and classifies all the incoming packets in two classes: first is the class containing all the packets that belong to a single conversation and second class containing the rest of the packets.

16. On page 11 of the Response, Applicant argues that Klein does not teach associating a priority with subsequent packets to avoid network congestion.

Examiner respectfully disagrees.

Klein teaches designating bytes of a packet header for assigning priority to the received packets 9:59-60, to avoid network congestion, inherent to the assigning the priority to packets, because the only reason for the assigning priority to packets is to arrange the preferential treatment of packets with higher priority to avoid network congestion.

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17. On page 12 of the Response, Applicant argues that Baum does not teach firewall to snoop packets being transmitted through the network switch to trap VoIP call set up message.

Examiner respectfully disagrees.

Baum teaches an instant firewall mechanism, negotiating VoIP ports dynamically on the fly

5:40-67, based on the copies of VoIP signaling which occurs during set up 6:8-19.

The firewall 338 comprises switch 342 that passes the original stream to the addressed gateways, therefore “snooping” VoIP signaling, as described above, to negotiate VoIP ports.

### *Conclusion*

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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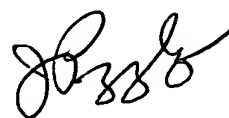
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan  
Patent Examiner.  
10/19/05.



JOHN PEZZLO  
PRIMARY EXAMINER